NASA/GSFC	NETWORKS AND MISSION SERVICES PROJECTS (N&MSP) CONFIGURATION CHANGE REQUEST (CCR)

1. CCR. NO.	2. DATE	3. PRIORITY	4. CHANGE LEVEL
CCR-451-ICD-13	November 19, 1998	☐ EMERGENCY ☐ URGENT ☒ ROUTINE	☐ A ☒ B ☐ C

5. TITLE OF CHANGE:
Removal of ODM Data Validity Flagging (reversal of WO CCR 1002, 11/94)

6. DOCUMENT TITLE: Interface Control Document (ICD) between the NCC/FDF and the WSC, Revision 5, through DCN 01, 6/30/98

DOCUMENT NO.: 530-ICD-NCC-FDF/WSC, Rev. 5 through DCN 01

LIST ALL AFFECTED DOCUMENTS INCLUDING PROCEDURES:
451-ICD-NCCDS/MOC

(CONT. ON ATTACHMENT)

7. REASON FOR CHANGE: To remove indications of validity of the USS, TTC, and DIS data in ODM's as it does not apply.

(CONT. ON ATTACHMENT)

8. DESCRIPTION OF CHANGE: Pages 9-74, 9-94, 9-96, 9-103

(CONT. ON ATTACHMENT)

9. IMPACT

SYSTEM

Y	N		Y	N		Y	N	
☐	☒	SCHEDULE	☐	☒	BUDGET	☐	☒	FACILITIES
☐	☒	TESTING	☐	☒	TRAINING	☐	☒	CONTRACTOR SUPPORT
☒	☐	INTERFACES	☐	☒	SECURITY	☐	☒	HARDWARE
☒	☐	SOFTWARE	☐	☒	LOGISTICS	☐	☒	DOCUMENTATION
☒	☐	GROUND SEGMENT				☐	☒	SPACE SEGMENT
☐	☒	OTHER _____						

ORGANIZATIONAL

Y	N		Y	N		Y	N	
☐	☒	450	☐	☒	____	☐	☒	MSFC
☒	☐	451	☐	☒	____	☐	☒	JSC
☐	☒	452	☐	☒	____	☐	☒	LERC
☐	☒	453	☒	☐	Code 405	☐	☒	KSC
						☐	☒	JPL

10. COMMENTS:
The CCR can be viewed online at the following address http://stelwscpo.gsfc.nasa.gov/icd/530-NCC/default.htm
A deleted asterisk "*" is denoted by a solid change bar directly underneath it.

11. ORIGINATOR D. Littmann, x7643 CODE 451	12. SEGMENT MANAGERíS APPROVAL CODE _____
SIGNATURE _____ DATE _____	SIGNATURE _____ DATE _____
13. BOARD CHAIRPERSON SIGNATURE DATE	**14. BOARD CHAIRPERSON COMMENTS**
15. BOARD ACTION ☐ Approved ☐ Withdrawn ☐ Disapproved ☐ Deferred	**16. ACTION REQUIRED** ☐ Publish Document ☐ Publish DCN ☐ Deviation ☐ Waiver ☐ Implement Change ☐ Other _____

# of Bytes	Data Item
~~1~~	~~Data Validity*~~ ~~0 = All Data Valid~~ ~~1 = USS Data Invalid~~ ~~2 = TTC Data Invalid~~ ~~3 = DIS Data Invalid~~ ~~4 = Data Invalid~~
~~1~~2	Spare
28	

~~* A Data Validity value of 4 implies that 2 or more of 1, 2, and 3 are invalid. A value of 2 implies TDRS Attitude Data is also invalid. "Invalid" means that data is the last valid data, i.e., the time tag is incorrect for the data flagged invalid.~~

9.5.2.2 SA ODM Subheader No. 2

The structure of this subheader is:

# of Bytes	Data Item
1	Command Channel PN Modulation 0 = No 1 = Yes
1	Doppler Compensation 0 = Off 1 = On
4	Signal EIRP Sign, 3 Digits (LSD = 0.1 dBw)*
10	Radiated Carrier Frequency (LSD = 10 Hz)**
1	Power Mode 0 = Normal 1 = High
1	Clock Presence (for all 5 seconds of the reporting interval) 0 = No 1 = Yes
2	Data Transition Density Percent Transitions (average of 5 one-second readings) 2 Digits (00-99)
20	

* Signal EIRP shall be obtained from a table look-up, based on forward power mode, i.e., Normal or High/Acquisition. The tables shall be periodically updated, whenever the analogous tables for Pin Diode Attenuator (PDA) settings for the forward power modes are updated.

** Radiated Carrier Frequency shall be set to the carrier frequency calculated for Doppler compensation and inhibit.

9.5.5.1 MA/SMA Forward

# of Bytes	Data Item
1	Service Support Type 0 = Forward 1 = Return
7	Support Identifier Code (SUPIDEN)
2	Vehicle Identification Code (VIC)
~~1~~	~~Data Validity*~~ ~~0 = All Data Valid~~ ~~1 = USS Data Invalid~~ ~~2 = TTC Data Invalid~~ ~~3 = Data Invalid~~
~~2~~3	Spare
	RF Beam Pointing: (Defined in Section 9.5)
4	Azimuth (±90°) Sign, 3 Digits (LSD = 0.1°)
4	Elevation (±90°) Sign, 3 Digits (LSD = 0.1°)
4	Signal EIRP**~~*~~ Sign, 3 Digits (LSD = 0.1 dBw)
10	Radiated Carrier Frequency***~~*~~ (LSD = 10 Hz)

~~* A Data Validity Value of 3 implies that 1 and 2 are invalid. A value of 2 implies TDRS attitude Data is also invalid. "Invalid" means that data is the last valid data, i.e., the time tag is incorrect for the data flagged invalid.~~

**~~*~~ Signal EIRP shall be obtained from a table look-up. The table shall be periodically updated, whenever the analogous table for PDA settings for the forward power mode is updated.

***~~*~~ Radiated Carrier Frequency shall be set to the carrier frequency calculated for Doppler compensation and inhibit.

9.5.5.2 MA Return

# of Bytes	Data Item
1	Service Support Type 0 = Forward 1 = Return
7	Support Identifier Code (SUPIDEN) Section 11.
2	Vehicle Identification Code (VIC)
38	SA/MA/SMA ODM Subheader No. 8
2	MA Return Link ID (obtained from SHO)
~~1~~	~~Data Validity~~ ~~0 = Data Valid~~ ~~1 = Data Invalid~~
6~~5~~	Spare
	RF Beam Pointing: (Defined in Section 9.5)
4	Azimuth ($\pm$90°) Sign, 3 Digits (LSD = 0.1°)
4	Elevation ($\pm$90°) Sign, 3 Digits (LSD = 0.1°)
2	MA Return Link ID (ID of the MAR equipment string, including receiver.)
1	Doppler Tracking Status 0 = Inactive 1 = One-way 2 = Two-way 3 = Cross Support
1	Range Tracking Status 0 = Inactive 1 = Active 2 = Cross Support

# of Bytes	Data Item
1	BER Status* 0 = Status not valid 1 = BER $\geq 10^{-3}$ 2 = 10^{-3} > BER $\geq 10^{-4}$ 3 = 10^{-4} > BER $\geq 10^{-5}$ 4 = 10^{-5} > BER $\geq 10^{-6}$ 5 = 10^{-6} > BER $\geq 10^{-7}$ 6 = 10^{-7} > BER $\geq 10^{-8}$ 7 = 10^{-8} > BER $\geq 10^{-9}$ 8 = BER < 10^{-9}
1	Spare~~Data Validity**~~ ~~0 = Valid~~ ~~1 = Invalid~~
36	

9.5.8.2 End-to-End Test ODM, Return

# of Bytes	Data Item
16	End-to-End Test ODM Subheader
4	Simulated EIRP Sign, 3 Digits (LSD = 0.1 dBw)
10	Return Link Frequency, (LSD = 10 Hz)***~~*~~
~~1~~	~~Data Validity****~~ ~~0 = Valid~~ ~~1 = Invalid~~
2~~1~~	Spare
32	

* This BER Status is valid only for locally generated End-To-End Test data.

~~** This applies only to Command Channel Lock, Carrier Lock (PTE Demodulator), Bit Sync Lock and BER Status.~~

***~~*~~ For non-coherent services this is the RF frequency transmitted from the End-to-End Test Antenna. For coherent services this is N/A.

~~**** This applies only to Return Link Frequency.~~